

## Abstract of the Disclosure:

In an oxide film etching, a plasma having a suitable  
 ratio of  $CF_3$ ,  $CF_2$ ,  $CF$ ,  $F$  is necessary and there is a problem  
 5 in which in accordance with a temperature fluctuation of  
 the etching chamber an etching characteristic is  
 fluctuated. Using UHF type ECR plasma etching apparatus  
 having a low electron temperature, a suitable  
 dissociation can be obtained, and by maintaining the  
 10 adjustment range of a side wall at from 10 °C and 120 °C a  
 stable etching characteristic can be obtained. Since the  
 oxide film etching using the low electron temperature and  
 high density plasma can be obtained, an etching result  
 having a superior characteristic can be obtained, and  
 15 also since the side wall temperature adjustment range is  
 low, a simplified apparatus structure and a heat resistant  
 performance countermeasure can be obtained easily.

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